RHYNCHOTA PALAWANICA, PART II. HOMOPTERA.

By Charles S. Banks.

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The first part of this paper, published in this Journal, November, 1909, contained that portion of the Rhynchota of Palawan belonging to the suborder Heteroptera. The remainder of the collections of Messrs. Weber and Schultze, containing the Homoptera, is much smaller but consists of some very interesting forms. A total of 45 species, including 8 new species in 38 genera, one of which is new, is here recorded. Many of the species are noted from these Islands for the first time. The total number of species recorded in this and the previous paper is 130, of which 20 are new, comprising 103 genera, 2 of which are new.

It will be noted that, with the exception of Tara Island and Bacuit, the chief collecting was done in the immediate vicinity of Iwahig, located at about the central portion of the Island of Palawan. There is no doubt but that careful collecting by one familiar with this order would result in our obtaining four or five times as many species both in Heteroptera and Homoptera.

RHYNCHOTA.

HOMOPTERA.

Fam. CICADIDÆ.

Subf. CICADINÆ.

Div. POLYNEURARIA.

PLATYPLEURA Amyot et Serville.

Hist. des Hém. (1843) 465.
Type: *P. stridula* Linn.

1. Platypleura fulvigera Walk.
   Platypleura fulvigera Walk., List Hom. (1850) 1, 9.
   Pœcilopsaltria fulvigera Stål, Berl. Ent. Ztschr. (1866) 10, 169, Ö. V. A. F. (1870) 707; Butl., Cist. Ent. (1874) 1, 185; Dist., Mono. Orient. Cicadid. (1889–1892) 13, *pl. 1, fig. 2, a, b,* (var.).

Palawan, Bacuit and Tara Island, P. I. (11655 and 11721 *C. M. Weber*), 2 specimens. This species is common in all parts of the Philippines. During the months of August and September its songs may be heard at certain hours of the day in any part of the city of Manila.

Div. CICADARIA.

CRYPTOTYMPANA Stål.

Ann. Soc. Ent. Fr. (1861) (4) 1, 613.
Type: *C. pustulata* Fabr.

2. Cryptotympana ?varicolor Dist.
Cryptotympana varicolor Dist., Ann. Mag. Nat. Hist. (1904) (7) 14, 430, Fauna British Ind., Rhyn. (1906) 3, 86.

I doubtfully refer the seven specimens to this species. The chief differences between the specimens before me and *C. acuta* Sign., appear to be in their lacking the dorso-lateral white fasciæ on the abdomen and in having the ♂ opercula very long and acute. They extend beyond the caudo-lateral margins of the abdomen and their apices, which are strongly hairy, are about in line with the apex of the penultimate abdominal segment. There is a dark brown median ventral fascia on the abdomen extending to the base of the penultimate segment only in the ♂, while in the ♀ this fascia extends to the apex of the ovipositor. The lateral portions of the sternites in both sexes are covered with golden yellow or white sericeous pile. Distant gives a description of the ♀ only.

Palawan, Iwahig, P. I. (10891 *W. Schultze;* 11968 *C. M. Weber*), 7 specimens, 4 ♂ and 3 ♀. This is the first record of this species as from the Philippines if it prove to be *varicolor*.

Div. DUNDUBIARIA.

LEPTOPSALTRIA Stål.

Hem. Afr. (1866) 4, 5.
Type: *Leptopsaltria tuberosa* Sign.

3. Leptopsaltria quadrituberculata Sign.
Cicada quadrituberculata Sign., Ann. Soc. Ent. Fr. (1847) (2) 5, 297.
Dundubia quadrituberculata Walk., List Hom. (1850) 1, 78. Stål, Ann. Soc. Ent. Fr. (1864) (4) 4, 60.
Leptopsaltria quadrituberculata Stål, Berl. Ent. Ztschr. (1866) 10, 170; Ö. V. A. F. (1870) 710; Dist., Mono. Orient. Cicadid. (1892) 31, *pl. 8, fig. 6, a, b.*

This fine species, described from Java by Signoret, has been found in China and also in the Philippines, having been taken by Semper. The most striking feature is the presence of the four ventral abdominal tubercles.

PALAWAN, Iwahig, P. I. (10889 *W. Schultze*), 2 ♂ specimens.

DUNDUBIA Amyot et Serville.

Hist. des Hém. (1834) 470.
Type: *D. mannifera* Linn.

4. DUNDUBIA MANNIFERA Linn.

Cicada mannifera Linn., Mus. Ad. Fried. (1754) 84, excl. syn.
Tettigonia vaginata Fabr., Mant. Ins. (1787) **2**, 266.
Cicada virescens Oliv., Encycl. Méth. (1790) **5**, 747.
Dundubia vaginata Am. et Serv., Hist. des Hém. (1843) 471; *varians* Walk., List Hom. (1850) **1**, 48; *immacula* Walk., ibid., 50; *nigrimacula* Walk., ibid., 63; *sobria* Walk., ibid., 63.
Cephaloxys terpsichore Walk., ibid., 239.
Fidicina confinis Walk., J. Linn. Soc., Zool. (1867) **10**, 92.
Dundubia mannifera Stål, Berl. Ent. Ztschr. (1866) **10**, 170; ö. V. A. F. (1870) 707; Dist., Mono. Orient. Cicadid. (1892) **39**, *pl. 4, fig. 10, a, b;* Fauna British Ind., Rhyn. (1906) **3**, 94, *fig. 44.*
Mogannia terpsichore Atkins., J. A. S. B. (1885) **53**, 233.

This species is found over the entire East, as far north as China. It has been taken in Mindanao (6687, 7299 *Mrs. M. S. Clemens*) and on Sibuyan Island (2010 *R. C. McGregor*).

PALAWAN, Iwahig and Tara Island, P. I. (10893 *W. Schultze,* and 11722, 11972, 11978 *C. M. Weber*), 16 specimens.

COSMOPSALTRIA Stål.

Hem. Afr. (1866) 4, 5.
Type: *C. doryca* Boisd.

5. COSMOPSALTRIA INERMIS Stål.

Cosmopsaltria inermis Stål, ö. V. A. F. (1870) 708; Dist., Mono. Orient. Cicadid. (1892) 49, *pl. 6, fig. 15, a, b.*

This quite rare insect is very well figured by Distant. It has not been brought previously to this laboratory by any collector. Mr. Schultze was fortunate in securing a ♂ and a ♀ specimen.

PALAWAN, Iwahig, P. I. (10892 *W. Schultze*), 2 specimens.

Subf. GÆANINÆ.

Div. MOGANNIARIA.

MOGANNIA Amyot et Serville.

Hist. des. Hém. (1843) 467.
Type: *Mogannia conica* Germ.

6. MOGANNIA CONICA Germ.

Cicada conica Germ., Thon's Arch. (1830) **2**, pt. 2, 39.
Mogannia illustrata Amy. et Serv., Hém. (1843) 467, *pl. 9, fig. 4.*
Cephaloxys hemelytra Sign., Ann. Soc. Ent. Fr. (1847) (2) **5**, 295.
Mogannia indicans, ignifera et avicula Walk., List Hom. (1850) **1**, 249, 250; (1852) **4**, *pl. 2, fig. 5.*
Mogannia recta Walk., List Hom., Suppl. (1858) 39.
Mogannia conica Stål, Ö. V. A. F. (1862) 483; Dist., Mono. Orient. Cicad. (1892) 122, *pl. 14, fig. 18, a, b,* Fauna British Ind., Rhyn. (1906) **3**, 152.
Mogannia histrionica Uhler, Proc. Acad. Nat. Sci. Philadelphia (1862), 283.
Mogannia venutissima Stål, Ö. V. A. F. (1865) 154.

PALAWAN, Bacuit, P. I. (11654 *C. M. Weber*), 1 specimen, which is the typical form. There is much variation in this species according to Distant *et al.*, although all the Philippine specimens appear to conform to the description of the typical form.

Subf. TIBICININÆ.

Div. HUECHYSARIA.

HUECHYS Amyot et Serville.

Hist. des Hém. (1843) 464.
Type: *H. sanguinea* De Geer.

7. HUECHYS SANGUINEA De Geer.

Cicada sanguinea De Geer, Mém. (1773) **3**, 221, *pl. 33, fig. 17.*
Tettigonia sanguinolenta Fabr., Syst. Ent. (1775) 681; Stoll, Pun. et Cig. (1788–1790) *fig. 62;* Fabr., Syst. Rhyng. (1803) 42.
Cicada sanguinolenta Oliv., Enc. Méth. (1790) **5**, 756.
Huechys sanguinea Amy. et Serv., Hist. des Hém. (1843) 465; Dist., Mono. Orient. Cicadid. (1892) 111, 112, Fauna British Ind., Rhyn. (1906) **3**, 157, *fig. 69.*

There is considerable variation in the color and markings of this species, but as all grades may often be seen in individuals of the same community, these should hardly be considered as even of varietal value. The insects lose their color in alcohol, the red changing to golden yellow, so that such specimens might even be considered as distinct species.

PALAWAN, Iwahig, P. I. (10955 *W. Schultze* and 11707 *C. M. Weber*), 140 specimens in many of which the mesonotum is nearly completely suffused with red.

Fam. FULGORIDÆ.

Subf. FULGORINÆ.

Div. APHANARIA.

APHÆNA[1] Guérin.

Voy. Bélang. Ind. Orient., Zool. (1834) 451.
Type: *A. farinosa* Weber.

8. APHÆNA FARINOSA Weber.[2]

Cicada farinosa Weber, Obs. Ent. (1801) 114.
Lystra farinosa Fabr., Syst. Rhyng. (1803) 57; Germ., Thon's Ent. Arch. (1830) pt. 2, 52.
Aphana farinosa Burm., Handb. der Ent. (1835) 2, pt. 1, 166; Stål, Stett. Ent. Zeit. (1863) 24, 232, Ö. V. A. F. (1870) 742; Atkins, J. A. S. B. (1885) 54, 142; Distant, Fauna British Ind., Rhyn. (1906) 3, 201.
Aphæna farinosa Spin., Ann. Soc. Ent. Fr. (1839) 8, 244; Walk., List Hom. (1851) 2, 274.
Aphana scutellaris White, Ann. Mag. Nat. Hist. (1846) 17, 330; Westw., Cab. Orient. Ent. (1848) 73, *pl. 36, fig. 3.*
Aphaena saundersii Walk., tom. cit. 277.

This species, known in India, Malay Peninsula, Java, Borneo and Sumatra, has been previously reported from the Philippines by Stål.

PALAWAN, Iwahig, P. I. (10957 *W. Schultze*), 2 specimens, which having been put into alcohol, show no white tomentum.

SCAMANDRA Stål.

Stett. Ent. Zeit. (1863) 24, 232.
Type: *S. rosea* Guér.

9. SCAMANDRA HERMIONE Stål.

Scamandra hermione Stål, Ann. Soc. Ent. Fr. (1864) (4) 4, 62, Ö. V. A. F. (1870) 743.

The specimen in my possession has a somewhat greater alar expanse than that designated by Stål for his type, it being 67 millimeters across. It is slightly longer also, its length being 21.5 mm.

PALAWAN, Iwahig, P. I. (10954 *W. Schultze*). A single specimen, agreeing perfectly with the description except as to size.

[1] According to the rules of priority there is no doubt that Guérin's name should stand as he originally wrote it. There appears no special warrant for the change by Burmeister and much less for the following of his lead by modern entomologists. Spinola, in 1839, reverted to Guérin's name, with reason.

[2] Weber *not* Fabricius.

Subf. DICTYOPHARINÆ.

DICTYOPHORA Germar.

Silb. Rev. Ent. (1883) **1**, 175.
Type: *D. europæa* Linn.

10. Dictyophora pallida Don.

Fulgora pallida Don., Ins. Ind. (1800) **8**, *fig.* 2.
Fulgora graminea Fabr., Syst. Rhyng. (1803) 4.
Flatta lyrata Germ., Thon's Ent. Arch. (1830) (2) **2**, 47.
Pseudophana lyrata Burm., Handb. Ent. (1835) **2**, 160
Pseudophana pallida Westw., Tr. Linn. Soc. (1841) **18**, 150.
Dictyophora despecta Walk., List Hom. (1851) **2**, 314; Atkins, J. A. S. B. (1886) **55**, 27.

Dictyophora albivitta Walk., loc. cit. 319; Melich., Hom. Fauna Ceyl. (1903) 22.
Dictyophora lepthorina Walk., loc. cit. 321; Atkins, loc. cit. 30.
Dictyophora pallida Atkins, loc. cit. 27; Dist., Fauna British Ind., Rhyn. (1906) **3**, 243.
Dictyophora ?albivitta Atkins, loc. cit. 29.
Dictyophora percarinata Kirby, J. Linn. Soc., Zool. (1891) **24**, 134; Melich., loc. cit. 24.
Dictyophora hastata Melich., ibid. 25.

Kirkaldy [3] in his description of insects affecting sugar cane indicates an entirely different position and name for the insect described by Distant as cited above, and doubts the identity of *Fulgora pallida* Don., with the species above indicated.

There is certainly nothing in the essential structure of the insect under my hand which would ally it with *Zamila aberrans* Kirby. On the contrary, while Distant's figure of *Dictyophara* [sic] *lineata* Don., is extremely poor as to neuration of the tegmina, my specimen conforms closely to the figure of *Pibrocha egregia* Kirby, of a closely related genus, as given both by Kirby [4] and Distant.[5]

As to the term *Dictyophara,* I find the citation for Germar's genus in Agassiz's Nomenclator Zoologicus as *Dictyophora.* I have not Germar's original, but Kirkaldy states that Germar gave it *Dictyophora,*[6] and as Stål [7] gave it *Dictyophora,* I imagine that this change to *Dictyophara* is a typographical error which has been transmitted. Distant in his citations gives *Dictyophara percarinata* Kirby, whereas Kirby in his original description gives *Dictyophora percarinata.* I see no reason why the name should have been changed and agree with Kirkaldy's statement cited.

Palawan, Iwahig and Bacuit, P. I. (10973 *W. Schultze* and 11663

[3] *Ann. Soc. Ent. Belg.* (1907), **51**, 123.
[4] Kirby, *J. Linn. Soc. Zool.* (1891), **24**, *pl. 5, fig. 4.*
[5] Distant, *Fauna British Ind., Rhyn.* (1906), **3**, 240, *fig. 104.*
[6] Kirkaldy, *loc. cit.* p. 124, footnote.
[7] Stål, *Hem. Fabr.* (1869), **2**, 91.

C. M. Weber). A single specimen of this insect was taken at each place. It is common in other parts of the Islands, but has not been reported previously.

CENTROMERIA Stål.

Ö. V. A. F. (1870) 745.
Type: *C. longipennis* Walk.

11. CENTROMERIA LONGIPENNIS Walk.
Centromeria longipennis Walk., List Hom. (1851) **2**, 316; Stål, Ö. V. A. F. (1870) 745; Dist., Fauna British Ind., Rhyn. (1906) **3**, 250, ref.

This species was originally described from the Philippines.

PALAWAN, Bintuan and Tara Island, P. I. (11691, 11712 *C. M. Weber*), 4 specimens, the single one from Tara Island somewhat multilated and discolored.

Subf. ACHILINÆ.

FAVENTIA Stål.

Hem. Afr. (1866) **4**, 181.
Type: *F. pustulata* Walk.

12. FAVENTIA PUSTULATA Walk.
Cixius pustulatus Walk., J. Linn. Soc., Zool. (1856) **1**, 87.
Faventia pustulata Stål, Berl. Ent. Ztschr. (1866) **10**, 392; Dist., Fauna British Ind., Rhyn. (1906) **3**, 287, *fig. 135*.

This species has not been recorded hitherto from the Philippines. It is known from Tenasserim and Singapore.

PALAWAN, Iwahig, P. I. (10977 *W. Schultze*). A single specimen.

Subf. DERBINÆ.

PHENICE Westwood.

Tr. Linn. Soc. (1845) **19**, 10.
Type: *P. fritillaris* Westw.

13. PHENICE MOESTA Westw.
Derbe moesta Westw., Ann. Mag. Nat. Hist. (1851) (2) **7**, 209.
Phenice moesta Stål, Ö. V. A. F. (1870) 750; Atkins., J. A. S. B. (1886) **55**, 41; Melich., Hom. Fauna Ceyl. (1903) 54, *pl. 2, fig. 11*.
Assamia dentata Buckt., Ind. Mus. Notes (1896) **4**, 1.

This insect is rather common on sugar cane in the Philippines at certain seasons of the year. It might eventually prove to be a serious pest.

PALAWAN, Iwahig, P. I. (10952 *W. Schultze*), 2 specimens.

JADA Distant.

Fauna British Ind., Rhyn. (1906) **3**, 299.
Type: *J. nitagalensis* Dist.

14. **Jada maculipennis** sp. nov. (Plate III, fig. 8.)
Fuliginous, facial carinæ slightly ferruginous; clypeus and rostrum sanguineous; second antennal segment yellowish, passing lower margin of eye; prothorax

obscure brown-ochraceous; mesonotum glabrous medially; abdomen dull ochraceous dorsally and ventrally, segments with brown margins; genitalia slightly sanguineous.

Tegmina fuliginous, veins brown, except apical which are spotted with sanguineous; entire costal margin with pale ochraceous spots more or less confluent basally; a spot at angle of ultimate and penultimate branches of upper longitudinal vein;[8] two or three subcostal, subapical spots on costal vein and three pale spots on apex, the upper and lower with a brown point in its margin. Hind wings uniformly fuliginous with brown veins.

Length 3.5 millimeters, length of tegmina 9.5 millimeters.

PALAWAN, Tara Island, P. I. (*C. M. Weber* collector).

Type ♂ No. 11711 in Entomological Collection, Bureau of Science, Manila, P. I. A single specimen.

This species resembles *J. nitagalensis* Dist., in general pattern, but the wing maculation is quite different and the ♂ genitalia are not so markedly hooked as in Distant's species. The right hind wing of the type is mutilated, the left one has been removed from the specimen and mounted on a card attached to the same pin.

ZORAIDA Kirkaldy.

Entomologist (1900) 242 (*nom. nov.*)
Type: *Z. sinuosa* Westw.

15. ZORAIDA JAVANICA Westw.
Thracia javanica Westw., Tr. Linn. Soc. (1842) 19, 19, *pl. 2, fig. 9;* Walk., List Hom. (1851) 2, 400; Stål, Ö. V. A. F. (1870) 750.

This species is a true *Zoraida*. It has been taken at Montalban Gorge near Manila, but is not abundant.

PALAWAN, Iwahig, P. I. (12044 *C. M. Weber*). A single specimen, somewhat damaged.

Subf. LOPHOPINÆ.

SERIDA Walker.

J. Linn. Soc., Zool. (1857) 1, 158.
Type: *S. latens* Walk.

16. SERIDA LATENS Walk.
Serida latens Walk., J. Linn. Soc., Zool. (1857) 1, 158.
Lerida fervens id., loc. cit. pl. 7, fig. 8.[9]
Serida fervens Dist., Fauna British Ind., Rhyn. (1906) 3, 325, *fig. 160.*

PALAWAN, Iwahig, P. I. (11900 *C. M. Weber*), 2 specimens.

The specimens from the Philippines agree with the description and figure in every particular, except that the markings are slightly paler and the tibiæ are somewhat ampliate, not prominently so, while Distant's figure shows absolutely no ampliation.

[8] As indicated in Distant's description.

[9] Figured as *Lerida fervens* by Walker, probably in error or as an error of the artist.

ZAMILA Walker.

Journ. Ent. (1862) 1, 304.
Type: *Z. lycoides* Walk.

17. Zamila perpusilla Walk.
Pyrops perpusilla Walk., List Hom. (1851) 2, 269.
Zamila perpusilla Dist., Fauna British Ind., Rhyn. (1906) 3, 327.

Palawan, Iwahig, P. I. (1098 *W. Schultze*). A single specimen, which lacks the abdomen.

Originally described from India, this is the first record of this species for the Philippines.

JIVATMA Distant.

Fauna British Ind., Rhyn. (1906) 3, 328.
Type: *J. metallica* Dist.

18. **Jivatma triangulata** sp. nov. (Plate III, fig. 5.)

Vertex, face and clypeus pale ochraceous, the face apically, transversely white, the clypeus with oblique, brown hair-lines and black apex; pronotum slightly darker; mesonotum brown between lateral carinæ and in lateral angles; all carinæ and margins slightly paler. Antennæ white, base of third segment beneath with a black spot.

Abdominal segments dorsally dark brown with cretaceous exudate at segmental articulations.

Tegmina brown, very dark in claval areas and with a triangular, hyaline area on middle of costa, its apex reaching disc of tegmen. Costal margin pale hyaline before and after triangular area with a series of about seven oblique brown lines crossing it and coalescing with brown of tegmen; beginning at proximal end of triangular area and extending to apex of the tegmen, a continuation of this series, consisting of about nine other brown, oblique lines, the first two short, the next five twice as long, the next or eighth a brown curved-sided triangle and the ninth like the 3–7. In the posterior apical angle a small dark brown spot, preceded anteriorly by a hyaline streak. Veins on the apical third pale brown. Wings fuliginous, veins black. Ventral surface ochraceous, more or less suffused with cretaceous; legs ochraceous, anterior femora with three pale brown annulations, anterior and mid tarsi with three, the apical being nearly black; spines of posterior tibiæ broadly black at their bases and with black tips; first tarsal segment more than twice length and breadth of remaining. Rostrum extends to posterior coxæ.

Length 6 millimeters. Length of tegmen 8.5 millimeters.

Palawan, Bintuan, P. I. (*C. M. Weber* collector).

Cotypes No. 11679 in Entomological Collection, Bureau of Science, Manila, P. I. Described from two specimens.

Subf. ISSINÆ.

HEMISPHÆRIUS Schaum.

Ersch & Gruber's Allg. Enc. Wiss. Künste (1850) 1, 71.
Type: *H. coccinelloides* Burm.

19. **Hemisphærius parenthesis** sp. nov. (Plate III, fig. 3.)

Obovoidal, pale ochraceous with dark brown, transverse markings on the tegmina; head ochraceous, the margins diffusely sanguineous; eyes brown; ocelli rufous; clypeus pitchy brown, except basal portion which is ochraceous; pronotum

concolorous with head and similarly margined; propleura black, as is also a broad band on anterior and mid coxæ; scutellum concolorous with head but not red-margined; tegmina convex, costal margin decidedly convex; the entire disc to claval and sutural margins, but excepting the costal and apical marginal areas which are ochraceous, dark chestnut brown with two transverse curved fasciæ, one anteriorly arched, across the middle of the tegmen, the other parenthesis-shaped on the apical third; these fasciæ do not attain the margins of the brown area on either side. The extreme external margin of the tegmen is slightly reflexed and is dark brown. Wings minute, translucent, brown apically, with yellow veins, pale basally.

Legs dark ochraceous; anterior and mid tibiæ with two brown annulations; those of the latter, which is externally sulcate, are not complete; apical spines to posterior tibiæ black, as is the single spine on apical third.

Basal ventral, abdominal segments dark brown, their margins ochraceous, apical segments dark ochraceous. Genitalia ochraceous; black apically.

Length, including tegmina, 3.7 millimeters, width 2.75 millimeters.

PALAWAN, Tara Island, P. I. (*C. M. Weber* collector).

Type ♀ No. 11720 in Entomological Collection, Bureau of Science, Manila, P. I.

Three other specimens, two from the same locality and one from Bintuan, P. I. (11697 *C. M. Weber*), labeled paratypes, are somewhat paler in color with the ochraceous color of the tegmina more diffuse. The specimen No. 11697 has the facial disc brown, its margins ochraceous and mid coxæ somewhat broader.

20. **Hemisphærius transfasciatus** sp. nov. (Plate III, fig. 4.)

Obovoidal, pale brown, with three transverse yellow lines on tegmina.

Head, pronotum and scutellum pale ochraceous, all margined with ferrugineous; face slightly darker on disc; clypeus and rostrum black, glabrous; former pale yellow basally. Tegmina pale brown with a transverse basal interrupted yellow fascia, another, sinuate, on basal third from near internal suture externad for two-thirds width of tegmen, and a third, crescentic, across apical third not attaining either margin; wings fuliginous apically, with white veins, yellow basally.

Abdominal segments dorsally, ochraceous, narrowly red-margined, ventrally obsolescently brown, widely yellow-margined; genitalia brown.

Legs ochraceous, apices of anterior and mid femora and two annulations on anterior and mid tibiæ dark brown, posterior tibiæ dark ochraceous; tibial spine on apical third not conspicuous, black, as are the apical and subapical.

Length 3.75 millimeters, width 2.75 millimeters.

PALAWAN, Iwahig, P. I. (*W. Schultze* collector).

Type ♂ No. 11961 in Entomological Collection, Bureau of Science, Manila, P. I. Described from a single specimen.

While this species might be taken for the ♂ of *H. parenthesis* at first sight, the pleural and coxal markings together with the entirely

different pattern of the tegminal markings will at once aid in differentiating it.

21. **Hemisphærius trimaculatus** sp. nov. (Plate III, fig. 1.)

Obovoidal, brown, with ochraceous spots on tegmina. Occiput dark ochraceous, face brown except at union with clypeus, where it is pale ochraceous; clypeus and rostrum black, glabrous, base pale ochraceous, medially prominent; eyes brown, narrowly pale-margined; pronotum pale yellow, red-margined; scutellum brown, margins rufous; pleuræ pale yellow with a longitudinal dark brown stripe on pro- and mesopleuræ; anterior and mid coxæ pale yellow, each with a broad, black median band. Tegmina brown, pale-margined and with three irregular, pale, ochraceous spots, one on basal third and two across apical third; wings black, the veins and basal areas yellow. Abdominal segments dorsally brown with sanguineous margins, ventrally with yellow margins. Genitalia yellow, brown at apices of lobes. Legs ochraceous; fore and mid tibiæ with two brown annulations, the subbasal obsolescent. Posterior tibiæ apically black, with a subapical black-tipped spine and another on apical third.

Length 3.75 millimeters, width 2.75 millimeters.

PALAWAN, Iwahig, P. I. (*W. Schultze* collector).

Type ♀ No. 10962 in Entomological Collection, Bureau of Science, Manila, P. I. Described from a single specimen.

22. **Hemisphærius stâli** sp. nov. (Plate III, fig. 2.)

Obovoid, ochraceous and red, with three longitudinal red lines on face, and basal half of tegmina brown.

Head deep yellow; face margined with vermilion and with a broad, median, vermilion, longitudinal line which, together with marginal red, terminates at base of clypeus which is uniformly yellow except apical half and rostrum which are pitchy black. Occiput yellow, red-margined; eyes brown with paler margins. Pronotum lens-shaped, the anterior margin slightly more convex than the posterior and both with vermilion margins; scutellum equilateral, yellow, with vermilion margins of which the lateral are quite narrow and a median vermilion fascia from anterior margin halfway to apex. Tegmina ochraceous, basal half dark, pitchy brown except tumeral angles which are paler and internal sutures which are broadly yellow, margined with red to apex of claval region. Wings exceedingly small, not measuring a millimeter in length, and of a pale ocher.

Abdominal segments dorsally ochraceous, obsoletely red-margined, ventrally brown with pale ochraceous margins.

Legs ochraceous; apices of tibiæ black. Apices of tarsi brown. Posterior tibial spines black-tipped.

Length 4.5 millimeters; width 3.4 millimeters.

PALAWAN, Mount Kapuas, P. I. (*C. M. Weber* collector).

Type No. 12399 in Entomological Collection, Bureau of Science, Manila, P. I. Described from a single specimen in perfect condition.

Somewhat like *H. reticulatus* Dist., in general pattern, but differing decidedly in color and facial marking.

Dedicated to the memory of Dr. Carolus Stâl.

Subf. RICANIINÆ.

Div. RICANIINARIA.

POCHAZIA Amyot et Serville.

Hist. des Hém. (1843) 528.
Type: *P. fasciata* Fabr.

23. POCHAZIA GUTTIFERA Walk.
Pochazia guttifera Walk., List. Hom. (1851) **2**, 427; Melich., Ann. Hoffm. Wien. (1898) **13**, 216, *pl. 9, fig. 22*, Hom. Fauna Ceyl. (1903) 83; Dist., Fauna British Ind., Rhyn. (1906) **3**, 374.
Ricania guttifera Stål, Ö. V. A. F. (1862) 491; Atkins., J. A. S. B. (1886) **55**, 57.

This species, described by Walker from Silhet, and known also in Darjiling and Tenasserim, has not been reported before from the Philippines.

PALAWAN, Iwahig, P. I. (10972 *W. Schultze*). A single somewhat dilapidated specimen was taken.

RICANIA Germar.

Mag. Ent. (1818) **3**, 221.
Type: *R. fenestrata* Fabr.

24. RICANIA SPECULUM Walk.
Flatoides speculum Walk., List. Hom. (1851) **2**, 406.
Flatoides tenebrosus et perforatus, Ibid., pp. 406 and 407.
Ricania malaya, Stål, Ö. V. A. F. (1854) 247.
Ricania speculum Stål, loc. cit. (1870) 765; Atkins., J. A. S. B. (1886) **55**, 54; Melich., (part) Ann. Hoffm. Wien. (1898) **13**; 223; Dist., Fauna British Ind., Rhyn. (1906) **3**, 377.

A well-known species in the Philippines. There is a slight variation in the piceous markings of the apical clear spots and of the costal spots as to coalition.

PALAWAN, Bacuit, P I. (11673 *C. M. Weber*), 3 specimens.

25. RICANIA SUBSINUATA Stål.
Ricania subsinuata Stål. Ö. V. A. F. (1870) 768.

PALAWAN, Iwahig, P. I. (10965 *W. Schultze*), 2 specimens.

This species has two costal transparent spots, another at the apical angle and two on the apical margin, but it also has what Stål calls "albido-hyaline" spots or areas over the whole tegmen, or "corium" as he demonstrates it, in his description, *q. v.*

26. RICANIA TÆNIATA Stål.
Ricania tæniata Stål, Ö. V. A. F. (1870) 766.

PALAWAN, Iwahig, P. I. (10971 *W. Schultze* and 11982 *C. M. Weber*), 4 specimens. This species is easily distinguishable by the broad, medial,

dark band on the tegmina and the absence of the spot at the exterior apical angle.

27. RICANIA FUMOSA Walk.

Flatoides fumosus Walk., List. Hom. (1851) **2**, 414.
Ricania proxima Melich., Ann. Hoffm. Wien. (1898) **13**, 226, *pl. 11, fig. 22.*
Ricania fumosa Stål, ö. V. A. F. (1862) 491; Atkins., J. A. S. B. (1886) **55**, 55; Melich., loc. cit. p. 230; Dist., Fauna British Ind., Rhyn. (1906) **3**, 382.

This species has been collected in Sumatra, Siam, Assam, Java, and Celebes, but has not been recorded previously from the Philippines.

PALAWAN, Iwahig, P. I. (10970 *W. Schultze*), 7 specimens. The chief point of difference between this species and *R. tæniata* is that the apex of the tegmen in *tæniata* is more acute than in *fumosa*.

Subf. FLATINÆ.

Div. CERYNIARIA.

CERYNIA Stål.

Rio Jan. Hem. (1862) **2**, 68.
Type: *C. albata* Stål.

28. CERYNIA MARIA White.

Pœciloptera maria White, Ann. Mag. Nat. Hist. (1846) **18**, 25, *pl. 1, fig. 3.*
Flatta maria Walk., List. Hom. (1851) **2**, 436.
Flatta completa Ibid. p. 436.
Flatta tenella Ibid. p. 437.
Cerynia lutescens Melich., Ann. Hoffm. Wien. (1901) **16**, 220.
Cerynia maria Stål, ö. V. A. F. (1862) 490; Dist., J. A. S. B. (1879) **48**, 38, Ann. Mag. Nat. Hist. (1883) (5) **11**, 172; Atkins., J. A. S. B. (1886) **55**, 64; Dist., Fauna British Ind., Rhyn. (1906) **3**, 408, *fig. 210.*

This beautiful insect has never before been recorded from the Philippines. It was described by White from Silhet, India, and it has been taken outside of India only in west China and Sumatra (*fide Melichar*). The Philippine specimens have the subbasal spot on the tegmina more luteo-chraceous.

PALAWAN, Iwahig, P. I. (10980 *W. Schultze*), 2 specimens.

SALURNIS Stål.

ö. V. A. F. (1870) 773.
Type: *S. granulosa* Stål.

29. SALURNIS GRANULOSA Stål.

Salurnis granulosa Stål, ö. V. A. F. (1870) 774.

This species, the type of the genus, was originally described from the Philippine Islands. Since the time of its first description it has apparently not been taken previous to the present record. A species

somewhat similar was taken in Manila in 1905, but I have, as yet, not placed it positively. This second species was identified by Distant as *S. granulosa,* but certainly does not conform with Stål's description, either generically or specifically.

Palawan, Iwahig, P. I. (10979 *W. Schultze*). A single well-marked specimen.

NEPHESA Amyot et Serville.

Hist. des Hém. (1843) 527.
Type: *N. rosea* Spin.

30. Nephesa rosea Spin.

Ricania rosea Spin., Ann. Soc. Ent. Fr. (1839) 8, 400.
Nephesa rosea Amy. et Serv., Hist. des Hém. (1843) 528; Walk., List Hom. (1851) 2, 433; Stål, Ö V. A. F. (1870) 773.

Palawan, Iwahig, P. I. (10981 *W. Schultze*), 32 specimens. There is considerable variation in this species as to color, the tints ranging from pale green through yellow and white to rose. Some of the green specimens have the tegmina bordered with yellow-orange. Found by Schultze on cacao (*Theobroma cacao* Linn.).

DÆDA gen. nov.

Type: Dæda puncticlava sp. nov.

Head, including eyes, somewhat narrower than pronotum; vertex one-third as long as its width, anterior margin (viewed from dorsad) straight, obtusely angulate medially, laterally carinate and slightly laminate before eyes; ocelli widely separate, their distance from eyes one-fifth their interspace. Face confluent with vertex, as broad as long, lateral margins convex and carinate apically; submedian area broadly foveate before clypeus; median carination strongly tumescent ventrad to juncture of face and vertex, less elevate toward clypeus, which is separated from face by profound transverse sulcus; rostrum just passes mid coxæ.

Pronotum slightly longer than head, its anterior margin convex and in line with middle of eyes, its posterior margin evenly concave. Mesonotum three times length of pronotum, its disc evenly convex and medially *sulcate,* its posterior medial angle tumescent-tuberculate.

Tegmina twice as long as wide, costal margin arched at base; costal area twice width of radial and with parallel and reticulated oblique veins and sparse granulations. Radial area with cross-veins on posterior third. Outer half of disc with reticulated parallel veins, apical area beyond transverse line with most of veins furcate; entire clavus, interiad to its exterior vein, strongly granulate, the granulations disposed in parallel lines. Posterior tibiæ with two subapical spines.

Most closely resembles *Ketumala* Dist., from which, however, it differs in the shape of the tegmina, the tumescent facial carination, the number of spines on the posterior tibiæ and the position of the transverse preapical tegminal line.

It differs from all other related genera in the presence of the mesonotal sulcation.

31. **Dæda puncticlava** sp. nov. (Plate III, fig. 6.)

Compactly ovate, the tegmina compressed so that their apical margins are vertical; dark ochraceous, the posterior apical region of the tegmina fuscous.

Head, pro- and mesonota pale ochraceous, glabrous, eyes brown, ocelli vitreous; clypeus sparsely pubescent; tegmina olivaceo-fuscous apically, pale ochraceous basally; clavus with an oval, black foveate puncture at apical third between longitudinal veins. Legs pale ochraceous.

Length 4 millimeters, including tegmina 7 millimeters; length of tegmen 6 millimeters.

PALAWAN, Tara Island, P. I. (*C. M. Weber* collector).

Type No. 11719 in Entomological Collection, Bureau of Science, Manila, P. I. Described from a single specimen.

Div. FLATOIDESARIA.

UXANTIS Stål.

Ö. V. A. F. (1870) 775.
Type: *U. consputa* Stål.

32. UXANTIS SICCIFOLIA Stål.
Uxantis siccifolia Stål, Ö. V. A. F. (1870) 776.

This species, of which Stål possessed only the ♂, is fairly common in Manila. It may usually be taken on *Casuarina equisetifolia* Forst.

PALAWAN, Bacuit, P. I. (11672 *C. M. Weber*), 1 specimen.

Fam. MEMBRACIDÆ.

Subf. CENTROTINÆ.

Div. MICREUNARIA.

LEPTOBELUS Stål.

Hem. Afr. (1866) 4, 86.
Type: *L. dama* Germ.

33. LEPTOBELUS DAMA Germ.
Centrotus dama Germ., Silb. Rev. Ent. (1835) 3, 258; Fairm., Ann. Soc. Ent. Fr. (1846) 4, 510, *pl. 3, fig. 14*.
Leptobelus dama Stål, Berl. Ent. Ztschr. (1866) 27, 386; Atkins., J. A. S. B. (1885) 54, 81; Dist., Fauna British Ind., Rhyn. (1908) 4, 15, *fig. 11*.

This is the first record of this species from the Philippine Islands.

PALAWAN, Tara Island, P. I. (11715 *C. M. Weber*), 2 specimens, one having the corneous processes broken.

Div. LEPTOCENTRARIA.

LEPTOCENTRUS Stål.

Hem. Afr. (1866) 4, 87 and 90.
Type: *L. bos* Sign.

34. LEPTOCENTRUS TAURUS Fabr.
Membracis taurus Fabr., Syst. Ent. (1775) 676; Oliv., Enc. Méth. (1792) 665.
Membracis rupicapra Fabr., Ent. Syst. Suppl. (1798) 514.
Centrotus rupicapra Id., Syst. Rhyng. (1803) 18.
Centrotus taurus Ibid., p. 20.
Membracis tricornis Hardw., Zool. Journ. (1828) 4, 114, Suppl. *pl. 30, figs. c, d, f.*
Centrotus terminalis Walk., List. Hom. (1851) 2, 604; Stål, Ö. V. A. F. (1862) 491; Melich., Hom. Fauna Ceyl. (1903) 109.
Centrotus vicarius Walk., loc. cit., p. 605.
Leptocentrus taurus Stål, Hem. Fabr. (1869) 2, 50; Atkins., J. A. S. B. (1885) 54, 85; Dist., Fauna British Ind., Rhyn. (1908) 4, 28, *fig. 24.*
Leptocentrus gazella Buckt., Mono. Membrac. (1903) 235, *pl. 53, fig. 5a.*

I am inclined to believe that the species heretofore called *L. reponens* Walk. and *L. antilope* Stål are the same as the above, the only difference indicated by Distant being a slightly greater anterior foliation of the transverse processes of the pronotum.

PALAWAN, Bacuit, Bintuan, and Iwahig, P. I. (11669, 11690, 11924 *C. M. Weber*), 5 specimens.

Div. GARGARARIA.

GARGARA Amyot et Serville.

Hist. des Hém. (1843) 537.
Type: *G. genistæ* Fabr.

53. GARGARA PYGMÆA Walk.
Centrotus pygmæus Walk., List Hom. (1851) 2, 630.

This minute species, described originally from the Philippines and, apparently, not noted since its description, may be distinguished from its allies by the albescent apices of the tegmina.

PALAWAN, Bacuit and Iwahig, P. I. (11668, 11925 *C. M. Weber*), 3 specimens.

Fam. CERCOPIDÆ.

Subf. MACHÆROTINÆ.

MACHÆROTA Burmeister.

Handb. der Ent. (1835) **2**, pt. 1, 128.
Type: *M. ensifera* Burm.

36. Machærota ensifera Burm.
Machærota ensifera Burm., Handb. der Ent. (1835) **2**, pt. 1, 128; Stål, Ö. V. A. F. (1870) 727; Sign., Ann. Soc. Ent. Fr., Bull. (1879) (5) **9**, xlviii; Atkins., J. A. S. B. (1885) **54**, 22; Dist., Fauna British Ind., Rhyn. (1908) **4**, 80, *fig. 65*.

An abundant species in the Philippines. It builds its calcareous, tube-like nests on shrubs of *Sida acuta* Burm., and all the stages of its development may be easily observed.

Palawan, Iwahig, P. I. (11928 *C. M. Weber*). A single specimen.

Subf. APHROPHORINÆ.

CLOVIA Stål.

Hem. Afr. (1866) **4**, 75.
Type: *C. bigoti* Sign.

37. Clovia conifer Walk.
Ptyelus conifer Walk., List Hom. (1851) **3**, 711.
Ptyelus simulans Ibid. p. 717.
Ptyelus frenulatus Stål, Ö. V. A. F. (1854) 250; Freg. Eug. Resa, Ins. (1859) 286, Ö. V. A. F. (1862) 493.
Clovia frenulata Stål, loc. cit. (1870) 726.
Clovia conifer Atkins., J. A. S. B. (1885) **54**, 114; Dist., Fauna British Ind., Rhyn. (1904) **4**, 93, *fig. 72*.

This species, though reported previously from the Philippines, has not, up to this time, appeared in our collection.

Palawan, Iwahig, P. I. (10964 *W. Schultze* and 11930 *C. M. Weber*), 2 specimens.

MANDESA Distant.

Fauna British Ind., Rhyn. (1908) **4**, 106.
Type: *M. amplificata* Dist.

38. Mandesa vittifrons Stål. (Plate III, fig. 7 ♂.)
Clovia vittifrons Stål, Ö. V. A. F. (1870) 725.

In this species, which is undoubtedly referable to this genus, the discal transverse raised ridge mentioned by Distant in his generic diagnosis crosses only the inner two-thirds of the tegmina but the other characters are not to be mistaken. The ♀ is considerably larger than the ♂ and is more pallid with all dark markings less pronounced.

In the specimens before me the measurements are as follows: ♂ length

7 millimeters, width at widest portion of tegmina 3.25 millimeters, ♀ length 8.25–9.25 millimeters, width 3.75 millimeters.

Thus far known only from the Philippines.

Palawan, Iwahig, P. I. (10963 *W. Schultze* and 11981 *C. M. Weber*); Tara Island (11713 *C. M. Weber*), 5 specimens.

Subf. CERCOPINÆ.

COSMOSCARTA Stål.

Hem. Fabr. (1869) 2, 11.
Type: *C. heros* Fabr.

39. Cosmoscarta inclusa Walk.
Cercopis inclusa Walk., List Hom. (1851) 3, 658; Stål, Ö. V. A. F. (1865) 147.
Cosmoscarta inclusa Butl., Cist. Ent. (1874) 1, 265; Melich., Hom. Fauna Ceyl. (1903) 125, *pl. 4, fig. 5;* Dist., Fauna British Ind., Rhyn. (1908) 4, 140.

This species, originally described from Ceylon and not thus far reported from any other locality, is here recorded from the Philippines for the first time.

Palawan, Iwahig, P. I. (11973 *C. M. Weber*), ? specimens.

Fam. JASSIDÆ.

Subf. LEDRINÆ.

PETALOCEPHALA Stål.

Ö. V. A. F. (1853) 266.
Type: *P. bohemani* Stål.

40. Petalocephala philippina Stål.
Petalocephala philippina Stål, Ö. V. A. F. (1870) 732.

Palawan, Iwahig, P. I. (10982 *W. Schultze*), 1 specimen.

Subf. TETTIGONIELLINÆ.

TETTIGONIELLA Jacobi.

Zool. Jahr. Syst. (1904) 19, 778 (nom. nov.)
Type: *T. viridis* Linn.

41. Tettigoniella impudica Sign.
Tettigonia impudica Sign., Ann. Soc. Ent. Fr. (1853) (3) 1, 677.
Tettigonia impudica? Stål, Ö. V. A. F. (1870) 733.

This species was originally described from the Philippines in Signoret's monograph.

Palawan, Iwahig and Tara Island, P. I. (10974 *W. Schultze*, 11714 *C. M. Weber*), 5 specimens.

KOLLA Distant.

Fauna British Ind., Rhyn. (1908) 4, 223.
Type: *K. insignis* Dist.

42. **Kolla tripunctifrons** sp. nov.

Head and pronotum more or less pale ochraceous; tegmina albescent, semi-opaque, apical veins fuscous. Two black spots on anterior margin and another before middle of vertex. Eyes black. Ventral surface of body slightly virescent white. Legs very pale ochraceous or nearly white, tarsi slightly darker.

Length, including tegmina, 8 millimeters; width 2 millimeters.

Palawan, Iwahig, P. I. (*W. Schultze* collector).

Type No. 10976 in Entomological Collection, Bureau of Science, Manila, P. I. Another specimen taken by Weber at the same place (11702 *C. M. Weber*) is 10 millimeters long and 2.25 millimeters wide but is otherwise identical with the type.

Subf. JASSINÆ.

Div. TARTESSUSARIA.

TARTESSUS Stål.

Ö. V. A. F. (1865) 156.
Type: *T. ferrugineus* Walk.

43. Tartessus ferrugineus Walk.

Bythoscopus ferrugineus Walk., List Hom. (1851) 3, 865.
Bythoscopus malayus Stål, Freg. Eug. Resa, Ins. (1859) 290.
Bythoscopus biarcuatus, unilineatus, unifascia, Walk., MS.
Tartessus malayus Stål, ö. V. A. F. (1865) 156; Sign., Ann. Soc. Ent. Fr. (1880) (5) 10, 357.
Tartessus ferrugineus Stål, loc. cit. (1870) 738; Spangb., loc. cit. (1877) 7; Sign., ibid. 356; Dist., Fauna British Ind., Rhyn. (1908) 4, 303, *fig. 193.*

This species appears to be quite well distributed over the oriental region as far north as Japan. It has been taken frequently in the Philippines.

Palawan, Bacuit and Bintuan, P. I. (11657, 11680 *C. M. Weber*), 2 specimens.

44. Tartessus fieberi Stål.

Tartessus fieberi Stål, ö. V. A. F. (1865) 156, loc. cit. (1870) 738.

Palawan, Bacuit, P. I. (11708 *C. M. Weber*) a single specimen.

Div. JASSUSARIA.

JASSUS Fabricius.

Syst. Rhyng. (1803) 85.
Type: *J. nervosus* Fabr.

45. JASSUS ELEGANS Dist.
Jassus elegans Dist., Fauna British Ind., Rhyn. (1908) 4, 329.

PALAWAN, Iwahig, P. I. (10960 *W. Schultze*). 1 specimen.

This species, described from India, is here recorded from the Philippines for the first time.

ERRATA.

The following corrections should be made in Part I of Rhynchota Palawanica, Vol. IV, Sec. A, 553.

Page 557, in middle of page, for **Coscomoris** read **Cosmocoris.**

Page 562, line 16, a period follows Amy.

Page 564, line 1, for **Tessaratominiæ** read **Tessaratominæ**

Page 564, page 11, from bottom of page, for ———— Stål read **Eumenotes obscura Stål.**

Page 565, above Subf. **COREINÆ** insert Fam. **COREIDÆ.**

Page 572, line 15, delete comma after **British.**

Page 584, line 3, and page 588, line 12, for **and** read **&.**

Page 593, line 11, for **anadymone** read **anadyomene.**

ILLUSTRATIONS.

PLATE III.

FIG. 1. Hemisphærius trimaculatus Banks, sp. nov.
2. Hemisphærius stâli Banks, sp. nov.
3. Hemisphærius parenthesis Banks, sp. nov.
4. Hemisphærius transfasciatus Banks, sp. nov.
5. Jivatma triangulata Banks, sp. nov.
6. Dæda puncticlava Banks, gen. et sp. nov.
7. Mandesa vittifrons Stâl.
8. Jada maculipennis Banks, sp. nov.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

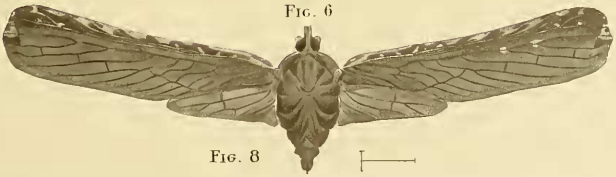

Fig. 8

W. Schultze and J. Castro, ad nat. del. 1910.

PLATE III.